DIALOG(R)File 324:German Patents Fulltext
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0002036133

KETTENFOERDERER

Patent and Priority Information (Country, Number, Date):
  Patent: DE 8408857 U1 19840719
  Application: DE 8408857 19840322
  Priority Application: DE 8408857 U 19840322 (DE 8408857)
Main International Patent Class: B65G-021/16
Publication Language: German

Fulltext not yet available

DIALOG(R)File 348:EUROPEAN PATENTS

00173751
Magnetic bend segment for a chain conveyor.
Magnetisches Bogenstuck fur Kettenforderer.
Segment magnetique pour transporteur a chaine.

PATENT ASSIGNEE:
M.C.C. Nederland B.V., (481330), Wattstraat 3, NL-2691 GZ 's-Gravenzande, (NL), (applicant designated states: AT;BE;CH;DE;FR;GB;IT;LI;LU;NL;SE)
INVENTOR:
Wallaart, Jacobus Johannes, Esdoornstraat 41, NL-2691 VG 's-Gravenzande, (NL)
LEGAL REPRESENTATIVE:
Smulders, Theodorus A.H.J. et al (21191), Vereenigde Octrooibureaux Nieuwe Parklaan 107, NL-2587 BP 's-Gravenhage, (NL)

PATENT (CC, No, Kind, Date): EP 159074 A1 851023 (Basic)
EP 159074 B1 870624
APPLICATION (CC, No, Date): EP 85200455 850322;
PRIORITY (CC, No, Date): DE 8408857 840322
DESIGNATED STATES: AT; BE; CH; DE; FR; GB; IT; LI; LU; NL; SE
INTERNATIONAL PATENT CLASS: B65G-021/20;
CITED PATENTS (EP A): GB 2037690 A; DE 1556183 B; GB 1115252 A; US 3964800 A

ABSTRACT EP 159074 A1
Magnetic bend segment for a chain conveyor.
A bend segment for a chain conveyor, including a chain movable over a track including one or more bends. The chain is composed of interconnected links (4) of magnetizable material having a substantially rectangular load bearing surface. The bend segment (1-3) is an integral element, U-shaped in cross-section, with an under surface formed with elongate pockets, extending into the legs (2, 3) of the element and extending in the longitudinal direction of the bend segment. The pockets are arranged to receive magnets (7) provided to keep the chain flat in a bend of the track. The under surface of the element is provided with means (8-10) for confining the magnets in the pockets.
ABSTRACT WORD COUNT: 122

LEGAL STATUS (Type, Pub Date, Kind, Text):

Application:	851023	A1	Published application (A1with Search Report ;A2without Search Report)
Examination:	860604	A1	Date of filing of request for examination: 860327
Examination:	861029	A1	Date of despatch of first examination report: 860911
Grant:	870624	B1	Granted patent
Oppn:	880518	B1	Opposition 01/880324 Knauer, Josef, Dipl.-Ing.; Lerchenweg 2; D-8042 Oberschleissheim; (DE) (Representative:)Beszedes, Stephan G. Dr.; Munchener Strasse 80a Postfach 1168; D-8060 Dachau; (DE)
*Oppn:	880824	B1	Opposition (change) 01/880324 Knauer, Josef, Dipl.-Ing.; Lerchenweg 2; D-8042 Oberschleissheim; (DE) (Representative:)Zinnecker, Armin, Dipl.-Ing.; Rechtsanwalte Eduard Lorenz - Dipl.-Ing. Hans-K. Gossel Dr. Ina Philipps - Dr. Paul B. Schauble Dr. Siegfried Jackermeier Dipl.-Ing. Armin Zinnecker; Widenmayerstrasse 23 D-8000 Munchen 22; (DE)
Change:	890419	B1	Representative (change)
Oppn Ended:	900613	B1	Termination of opposition procedure: 890921

LANGUAGE (Publication,Procedural,Application): English; English; English

DIALOG(R)File 345:Inpadoc/Fam.& Legal Stat

5422487
Basic Patent (No,Kind,Date): DE 8408857 U1 19840719 <No. of Patents: 017>

PATENT FAMILY:
AUSTRIA (AT)
Patent (No,Kind,Date): AT 27945 E 19870715
MAGNETISCHES BOGENSTUECK FUER KETTENFOERDERER. (German)
Patent Assignee: MCC NEDERLAND (NL)
Author (Inventor): WALLAART JACOBUS JOHANNES
Priority (No,Kind,Date): EP 85200455 A 19850322; DE 848857 U 19840322
Applic (No,Kind,Date): EP 85200455 A 19850322
Addnl Info: 00159074 19870624
IPC: * B65G-021/20
Language of Document: English

AUSTRIA (AT)
Legal Status (No,Type,Date,Code,Text):
AT 27945 R 19870715 AT REF CORRESPONDS TO EP-PATENT
(ENTSPRICHT EP-PATENT)
EP 159074 P 19870624
AT 27945 R 19871015 AT UEP PUBLICATION OF TRANSLATION
OF EUROPEEN PATENT SPECIFICATION
(UEBERSETZUNG DER EUROPAEISCHEN PATENTSCHRIFT
AUSGEGEBEN)

AUSTRALIA (AU)
Patent (No,Kind,Date): AU 8540270 A1 19850926
MAGNETIC BEND SEGMENT FOR CHAIN CONVEYOR (English)
Patent Assignee: MCC NEDERLAND
Author (Inventor): WALLAART JACOBUS JOHANNES
Priority (No,Kind,Date): DE 848857 U 19840322
Applic (No,Kind,Date): AU 8540270 A 19850322
IPC: * B65G-017/48
Language of Document: English
Patent (No,Kind,Date): AU 578669 B2 19881103
MAGNETIC BEND SEGMENT FOR CHAIN CONVEYOR (English)
Patent Assignee: MCC NEDERLAND
Author (Inventor): WALLAART JACOBUS JOHANNES
Priority (No,Kind,Date): DE 848857 U 19840322
Applic (No,Kind,Date): AU 8540270 A 19850322
IPC: * B65G-017/48
Derwent WPI Acc No: * G 85-265052
Language of Document: English

CANADA (CA)
Patent (No,Kind,Date): CA 1219832 A1 19870331
MAGNETIC BEND SEGMENT FOR A CHAIN CONVEYOR (English; French)
Patent Assignee: MCC NEDERLAND
Author (Inventor): WALLAART JACOBUS J
Priority (No,Kind,Date): DE 848857 U 19840322
Applic (No,Kind,Date): CA 477096 A 19850321
National Class: * 198-55
IPC: * B65G-015/00
Language of Document: English

GERMANY (DE)
Patent (No,Kind,Date): DE 3560281 C0 19870730
MAGNETIC BEND SEGMENT FOR A CHAIN CONVEYOR (English; French; German)
Patent Assignee: MCC NEDERLAND (NL)
Author (Inventor): WALLAART JACOBUS JOHANNES

Priority (No,Kind,Date): DE 848857 U 19840322
Applic (No,Kind,Date): EP 85200455 A 19850322
IPC: * B65G-021/20
Derwent WPI Acc No: * G 85-265052
Language of Document: English; French; German
Patent (No,Kind,Date): DE 8408857 U1 19840719
KETTENFOERDERER (German)
Patent Assignee: PELLIKAAN BRIGITTE JACOBA ANNA (NL)
Priority (No,Kind,Date): DE 848857 U 19840322
Applic (No,Kind,Date): DE 848857 U 19840322
IPC: * B65G-021/16
Language of Document: German

GERMANY (DE)
Legal Status (No,Type,Date,Code,Text):
DE 3560281 P 19870730 DE REF CORRESPONDS TO (ENTSPRICHT) EP 159074 P 19870730
DE 3560281 P 19880623 DE 8363 OPPOSITION AGAINST THE PATENT (EINSPRUCH GEGEN DAS PATENT ERHOBEN)
DE 3560281 P 19910214 DE 8310 ACTION FOR DECLARATION OF ANNULMENT (KLAGE AUF ERKLAERUNG DER NICHTIGKEIT ERHOBEN)
DE 3560281 P 19910214 DE 8328 CHANGE IN THE PERSON/NAME/ADDRESS OF THE AGENT (AENDERUNG IN PERSON, NAMEN ODER WOHNORT DES VERTRETERS)

DERZEIT KEIN VERTRETER BESTELLT
DE 3560281 P 19911017 DE 8313 REQUEST FOR INVALIDATION REJECTED/WITHDRAWN (ANTRAG AUF ERKENNUNG DER NICHTIGKEIT ZURUECKGEWIESEN/-GEZOGEN)
DE 3560281 P 19911114 DE 8315 REQUEST FOR RESTRICTION FILED (ANTRAG AUF BESCHRAENKUNG WURDE GESTELLT)
DE 3560281 P 19920723 DE 8318 PATENT RESTRICTED (PATENT WURDE BESCHRAENKT)
DE 3560281 P 19920813 DE 8310 ACTION FOR DECLARATION OF ANNULMENT (KLAGE AUF ERKLAERUNG DER NICHTIGKEIT ERHOBEN)
DE 3560281 P 19970130 DE 8312 PARTIAL INVALIDATION (TEILWEISE FUER NICHTIG ERKLAERT)

DENMARK (DK)
Patent (No,Kind,Date): DK 8501277 A 19850923
BUESTYKKE TIL KAEDETRANSPORTOER (Danish)
Patent Assignee: MCC NEDERLAND (NL)
Author (Inventor): WALLAART JACOBUS JOHANNES
Priority (No,Kind,Date): DE 848857 U 19840322
Applic (No,Kind,Date): DK 851277 A 19850321
IPC: * B65G
Language of Document: Danish
Patent (No,Kind,Date): DK 8501277 A0 19850321
BUESTYKKE TIL KAEDETRANSPORTOER (Danish)
Patent Assignee: MCC NEDERLAND (NL)
Author (Inventor): JOHANNES WALLAART JACOBUS
Priority (No,Kind,Date): DE 848857 U 19840322
Applic (No,Kind,Date): DK 851277 A 19850321
IPC: * B65G
Language of Document: Danish
Patent (No,Kind,Date): DK 159618 B 19901105
BUESTYKKE TIL KAEDETRANSPORTOER (Danish)
Patent Assignee: MCC NEDERLAND (NL)
Author (Inventor): WALLAART JACOBUS JOHANNES
Priority (No,Kind,Date): DE 848857 U 19840322

Applic (No,Kind,Date): DK 851277 A 19850321
IPC: * B65G-021/20; B65G-017/06
Derwent WPI Acc No: * G 85-265052
Language of Document: Danish
Patent (No,Kind,Date): DK 159618 C 19910429
BUESTYKKE TIL KAEDETRANSPORTOER (Danish)
Patent Assignee: MCC NEDERLAND (NL)
Author (Inventor): WALLAART JACOBUS JOHANNES
Priority (No,Kind,Date): DE 848857 U 19840322
Applic (No,Kind,Date): DK 851277 A 19850321
IPC: * B65G-021/20; B65G-017/06
Derwent WPI Acc No: * G 85-265052
Language of Document: Danish

DENMARK (DK)
Legal Status (No,Type,Date,Code,Text):

DK 851277	A	19840322	DK AAA	PRIORITY OF APPLIATION (APPL. FOR A UTILITY MODEL) (PRIORITY OF THE APPL. (UTILITY MODEL)) DE 848857 U 19840322
DK 851277	A	19850321	DK AEA	DATA OF DOMESTIC APPL. DK 851277 A 19850321
DK 851277	A	19850923	DK A	PUBLISHED APPLICATION
DK 851277	A	19901105	DK AGA	PUBLISHED AS APPLICATION OPEN FOR PUBLIC INSPECTION (PUBLISHED AS APPL. OPEN FOR PUBLIC INSPECTION) DK 159618 B 19901105
DK 851277	A	19910429	DK AGA	PATENT GRANTED DK 159618 C 19910429
DK 159618	P	19840322	DK AA	PRIORITY OF THE PATENT (UTILITY MODEL APPLICATION) (PRIORITY OF THE PATENT (UTILITY MODEL APPL.)) DE 848857 U 19840322
DK 159618	P	19850321	DK AE	APPLICATION DATA (PATENT) (APPL. DATA (PATENT)) DK 851277 A 19850321
DK 159618	P	19901105	DK B	APPLICATION PUBLISHED FOR PUBLIC EXAMINATION (APPL. PUBLISHED FOR PUBLIC EXAMINATION)
DK 159618	P	19910429	DK C	PATENT GRANTED

EUROPEAN PATENT OFFICE (EP)
Patent (No,Kind,Date): EP 159074 A1 19851023
MAGNETIC BEND SEGMENT FOR A CHAIN CONVEYOR (English)
Patent Assignee: MCC NEDERLAND (NL)
Author (Inventor): WALLAART JACOBUS JOHANNES
Priority (No,Kind,Date): DE 848857 U 19840322
Applic (No,Kind,Date): EP 85200455 A 19850322
Designated States: (National) AT; BE; CH; DE; FR; GB; IT; LI; LU; NL; SE
IPC: * B65G-021/20
Derwent WPI Acc No: * G 85-265052
Language of Document: English
Patent (No,Kind,Date): EP 159074 B1 19870624
MAGNETIC BEND SEGMENT FOR A CHAIN CONVEYOR (English)
Patent Assignee: MCC NEDERLAND (NL)
Author (Inventor): WALLAART JACOBUS JOHANNES
Priority (No,Kind,Date): DE 848857 U 19840322
Applic (No,Kind,Date): EP 85200455 A 19850322
Designated States: (National) AT; BE; CH; DE; FR; GB; IT; LI; LU; NL; SE
IPC: * B65G-021/20
Language of Document: English

EUROPEAN PATENT OFFICE (EP)
Legal Status (No,Type,Date,Code,Text):

EP 159074	P	19840322	EP AA	PRIORITY (APPLICATION OF UTILITY MODEL) (PRIORITAET (GEBRAUCHSMUSTERANMELDUNG)) DE 848857 U 19840322
EP 159074	P	19850322	EP AE	EP-APPLICATION (EUROPAEISCHE ANMELDUNG) EP 85200455 A 19850322
EP 159074	P	19851023	EP AK	DESIGNATED CONTRACTING STATES (BENANNTE VERTRAGSSTAATEN)
EP 159074	P	19851023	EP A1	PUBLICATION OF APPLICATION WITH SEARCH REPORT (VEROEFFENTLICHUNG DER ANMELDUNG MIT RECHERCHENBERICHT)
EP 159074	P	19860604	EP 17P	REQUEST FOR EXAMINATION FILED (PRUEFUNGSANTRAG GESTELLT)
EP 159074	P	19861029	EP 17Q	FIRST EXAMINATION REPORT (ERSTER PRUEFUNGSBESCHEID)
EP 159074	P	19870624	EP AK	DESIGNATED CONTRACTING STATES MENTIONED IN A PATENT SPECIFICATION (IN EINER PATENTSCHRIFT ANGEFUEHRTE BENANNTE VERTRAGSSTAATEN)
EP 159074	P	19870624	EP B1	PATENT SPECIFICATION (PATENTSCHRIFT)
EP 159074	P	19870624	EP REF	IN AUSTRIA REGISTERED AS: (IN AT EINGETRAGEN ALS:) AT 27945 R 19870715
EP 159074	P	19870626	EP ITF	IT: TRANSLATION FOR A EP PATENT FILED (IT: DEPOSITO TRADUZIONE DI BREVETTO EUROPEO) STUDIO CONS. BREVETTUALE S.R.L.
EP 159074	P	19870730	EP REF	CORRESPONDS TO: (ENTSPRICHT) DE 3560281 P 19870730
EP 159074	P	19870731	EP ET	FR: TRANSLATION FILED (FR: TRADUCTION A ETE REMISE)
EP 159074	P	19880518	EP 26	OPPOSITION FILED (EINSPRUCH EINGELEGT) DATE: 19880324 ; OPPONENT: KNAUER, JOSEF, DIPL.-ING. ; DATE: 19880324 ; KNAUER, JOSEF, DIPL.-ING.
EP 159074	P	19880718	EP NLR1	NL: OPPOSITION HAS BEEN FILED WITH THE EPO (NL: EUROPESE OCTROOIEN, WAARTEGEN OPPOSITIE IS INGESTELD) OPPONENT: KNAUER,JOSEF,DIPL.-ING. ; KNAUER,JOSEF,DIPL.-ING.
EP 159074	P	19880824	EP R26	OPPOSITION FILED (CORRECTION) (EINSPRUCH EINGELEGT (KORR.)) DATE: 19880324 ; OPPONENT: KNAUER, JOSEF, DIPL.-ING. ; DATE: 19880324 ; KNAUER, JOSEF, DIPL.-ING.
EP 159074	P	19900613	EP 27C	TERMINATION OF OPPOSITION PROCEDURE (EINSTELLUNG DES EINSPRUCHSVERFAHRENS) 890921
EP 159074	P	19910331	EP ITTA	IT: LAST PAID ANNUAL FEE (IT: TASSA ANNUALE ULTIMO PAGAMENTO)
EP 159074	P	19940331	EP EPTA	LU: LAST PAID ANNUAL FEE (LU: DERNIER PAYEMENT D'UNE TAXE ANNUELE)
EP 159074	P	19950131	EP EAL	SE: EUROPEAN PATENT IN FORCE IN SWEDEN (SE: EUROPEISKT PATENT GAELLANDE I SVERIGE) 85200455.5

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    EP 159074        P   20020101  GB IF02/REG  EUROPEAN PATENT IN FORCE AS
                             OF 2002-01-01
    EP 159074        P   20050413  GB PE20/REG  PATENT EXPIRED AFTER
                             TERMINATION OF 20 YEARS
    EP 159074        P   20050429  CH PL/REG    PATENT CEASED
                             (LOESCHUNG/RADIATION/RADIAZION)
    EP 159074        P   20050503  EP EUG       SE: EUROPEAN PATENT HAS
                             LAPSED  (SE: EUROPEISKT PATENT HAR UPPHOERT
                             ATT GAELLA)
                             FIL APPL ID: EP1985 85200455A

JAPAN (JP)
  Patent (No,Kind,Date):  JP 61007124  A2  19860113
    MAGNETIC BENDING SEGMENT FOR CHAIN CONVEYOR (English)
    Patent Assignee:  EMU SHII SHII NEDAARANDO BV
    Author (Inventor):  YAKOBUSU YOHANESU WARAATO
    Priority (No,Kind,Date):  DE 848857  U   19840322
    Applic (No,Kind,Date):  JP 8555767  A   19850322
    IPC: *  B65G-021/20; B65G-017/08; B65G-021/16
    Language of Document:  Japanese
  Patent (No,Kind,Date):  JP 93085450  B4  19931207
    Patent Assignee:  EMU SHII SHII NEEDERU BV
    Author (Inventor):  YAKOBUSU YOHANESU WARAATO
    Priority (No,Kind,Date):  DE 848857  U   19840322
    Applic (No,Kind,Date):  JP 8555767  A   19850322
    IPC: *  B65G-021/22; B65G-017/08; B65G-017/38; B65G-017/40
    Language of Document:  Japanese

KOREA, REPUBLIC (KR)
  Patent (No,Kind,Date):  KR 9305861  B1  19930625
    MAGNETIC BEND SEGMENT FOR A CHAIN CONVEYOR (English)
    Patent Assignee:  M C C NETHERLANDS B V  (NL)
    Author (Inventor):  WALLAART JACOBS J  (NL)
    Priority (No,Kind,Date):  DE 848857  U   19840322
    Applic (No,Kind,Date):  KR 851835  A   19850321
    IPC: *  B65G-021/20
    Derwent WPI Acc No: *  G  85-265052
    Language of Document:  Korean

UNITED STATES OF AMERICA (US)
  Patent (No,Kind,Date):  US 4643298  A   19870217
    MAGNETIC BEND SEGMENT FOR A CHAIN CONVEYOR (English)
    Patent Assignee:  MCC NEDERLAND  (NL)
    Author (Inventor):  WALLAART JACOBUS J  (NL)
    Priority (No,Kind,Date):  DE 848857  U   19840322
    Applic (No,Kind,Date):  US 714232  A   19850321
    National Class: *  198805000; 198690100
    IPC: *  B65G-023/18
    Language of Document:  English

UNITED STATES OF AMERICA (US)
  Legal Status (No,Type,Date,Code,Text):
     US 4643298      P   19840322  US AA        PRIORITY (UTILITY MODEL)
                             DE 848857  U   19840322
    US 4643298       P   19850321  US AE        APPL. DATA (PATENT)
                             US 714232  A   19850321
    US 4643298       P   19850612  US AS02      ASSIGNMENT OF ASSIGNOR'S
                             INTEREST
                             M.C.C. NEDERLAND B.V. WATTSTRAAT 3, 2691 GZ
                             'S-GRAVENZANDE, THE NETHERLANDS A CO ;
                             WALLAART, JACOBUS J. : 19850321
    US 4643298       P   19870217  US A         PATENT

SOUTH AFRICA (ZA)
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Patent (No,Kind,Date): ZA 8502091 A 19851127
MAGNETIC BEND SEGMENT FOR A CHAIN CONVEYOR (English)
Patent Assignee: MCC NEDERLAND
Author (Inventor): WALLAART JACOBUS JOHANNES
Priority (No,Kind,Date): DE 848857 U 19840322
Applic (No,Kind,Date): ZA 852091 A 19850320
IPC: * B65G
Derwent WPI Acc No: * G 85-265052
Language of Document: English

3/19/2 (Item 1 from file: 351)
DIALOG(R)File 351:Derwent WPI

004438174
WPI Acc No: 1985-265052/198543
XRPX Acc No: N85-197958
Magnetic bend segment for chain conveyor - has pockets within bend segments receiving magnets to maintain chain flat while traversing curve
Patent Assignee: MCC NED BV (MCCN-N); MCC NETHERLANDS BV (MCCN-N)
Inventor: WALLAART J J
Number of Countries: 017 Number of Patents: 009
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
EP 159074	A	19851023	EP 85200455	A	19850322	198543	B
AU 8540270	A	19850926				198546	
ZA 8502091	A	19850924				198602	
DK 8501277	A	19850923				198604	
US 4643298	A	19870217	US 85714232	A	19850321	198709	
CA 1219832	A	19870331				198717	
EP 159074	B	19870624				198725	
DE 3560281	G	19870730				198731	
KR 9305861	B1	19930625	KR 851835	A	19850321	199425	

Priority Applications (No Type Date): DE 84U8857 U 19840322
Cited Patents: DE 1556183; GB 1115252; GB 2037690; US 3964800
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
EP 159074	A	E	11		
Designated States (Regional): AT BE CH DE FR GB IT LI LU NL SE					
EP 159074	B	E			
Designated States (Regional): AT BE CH DE FR GB IT LI LU NL SE					
KR 9305861	B1			B65G-021/20	

Abstract (Basic): EP 159074 A
The chain comprises links (4) of magnetisable material, with a rectangular load bearing surface. Successive links are pivoted together, with magnets provided in the bend segments of the links. The bend segment (1-3) is an integral element of U-section.
The undersurface of the U-element is formed with elongate pockets extending into the legs of the elements and running longitudinally of the bend segment. These pockets receive the magnets (7) with slots receiving a flat closure strip (10) to retain the magnet in each slot. The bend segment is pref. a synthetic plastics.
USE - Chain conveyor utilising magnets to keep conveyor links flat on bends, without incurring wear.
2/4
Abstract (Equivalent): EP 159074 B
A bend segment for a chain conveyor, including a chain movable over a track including one or more bends, said chain being composed of links (4) of magnetisable material having a substantially rectangular load bearing surface, the successive links in the chain being pivoted together, and magnets (7) being provided in the bend segment which is

U-shaped in cross-section, characterised in that the bend segment is an integral element, the under surface of the U-shaped element being formed with elongate pockets (13), extending into the legs (2,3) of the element and extending in the longitudinal direction of the bend segment, said pockets (13) being arranged to receive the magnets (7), the under surface of the element being further provided with means (9,10) for confining the magnets in said pockets. (5pp)

Abstract (Equivalent): US 4643298 A

The chain conveyor bend segment includes a chain movable over a track including one or more bends. The chain is composed of interconnected links of magnetisable material having a substantially rectangular load bearing surface. The bend segment is an integral element, U-shaped in cross-section, with an under surface formed with elongate pockets.

The pockets extend into the legs of the element and extend in the longitudinal direction of the bend segment. The pockets are arranged to receive magnets provided to keep the chain flat in a bend of the track. (4pp)u

Title Terms: MAGNETIC; BEND; SEGMENT; CHAIN; CONVEYOR; POCKET; BEND; SEGMENT; RECEIVE; MAGNET; MAINTAIN; CHAIN; FLAT; TRAVERSE; CURVE
Derwent Class: Q35
International Patent Class (Main): B65G-021/20
International Patent Class (Additional): B65G-015/00; B65G-017/48; B65G-023/18
File Segment: EngPI